

REMARKS

The Examiner has revised the current rejection in light of new prior art and a reformulated rejection. As set forth below, such new rejection is still deficient. However, despite such deficiencies and in the spirit of expediting the prosecution of the present application, applicant has incorporated the subject matter of multiple dependent claims into each of the independent claims.

The Examiner has again rejected Claims 1, 3-18 and 20, 29 and 31 under 35 U.S.C. 102(b) as being anticipated by Tanaka (US Patent Number: 6,100,589). The Examiner has further rejected Claims 27-28 and 30 under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Suzuki et al. (US Patent Number: 6,707,156). Applicant respectfully disagrees with such rejections, especially in view of the amendments made hereinabove. Specifically, the subject matter of former dependent Claims 28 and 31 has been substantially incorporated into each of the independent claims.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

With respect to the first element of the *prima facie* case of obviousness, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form the device of Tanaka having the metal layer disposed, at least partially, directly above the active circuit. Applicant respectfully disagrees with this proposition, especially in view of the vast evidence to the contrary.

Specifically, it is noted that any attempt to position the metal layer of Tanaka, at least partially, directly above the active circuit would render an *unworkable device* as the design of Tanaka is simply not equipped to meet such design. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) Note, for example, the deficient number of layers to accomplish the same in Tanaka.

More importantly, it is further noted that Tanaka merely addresses the problem of arranging bonding pads with high density, since a first electrode layer must have a large area in order to secure the bonding area, due to disconnection from bumps of aluminum wiring, etc. Note col. 1, lines 15-45 from Tanaka. To this end, it is clear that Tanaka (as well as the remaining prior art relied upon) simply does not address the problem of bonding-related damage to the active circuit. To this end, the prior art does not even teach the problem solved by applicant. See *Eibel Process Co. v Minnesota & Ontario Paper Co.*, 261 US 45 (1923).

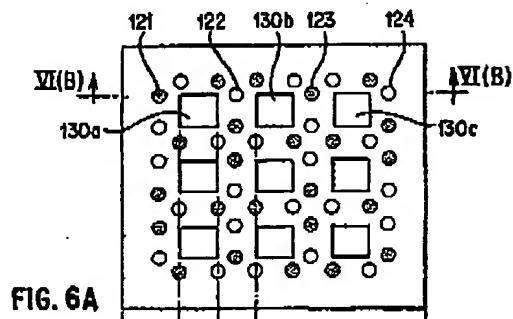
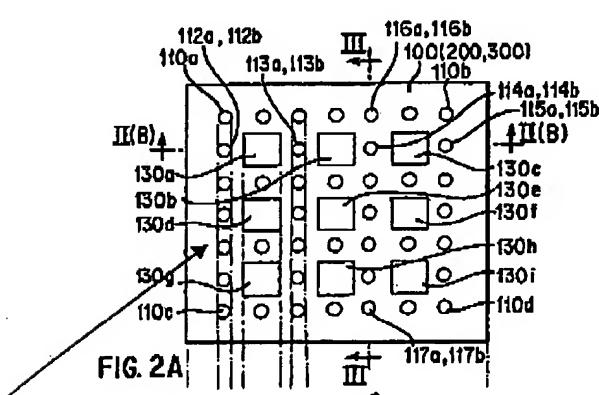
Therefore, for at least the reasons set forth hereinabove, the first element of the *prima facie* case of obviousness has simply not been met.

More importantly, with respect to the third element of the *prima facie* case of obviousness, the Examiner relies on the disclosure of Tanaka to make a prior art showing of applicant's claimed "wherein the mesh ensures that bonds are capable of being placed over the active circuit without damage thereto during a bonding process" (see former Claim 31, now substantially incorporated into each of the independent claims). Specifically, the Examiner argues that "Tanaka discloses the mesh ensures that bonds are capable of being placed over the active circuit without damage thereto during a bonding process."

Applicant respectfully disagrees with this assertion. First, Tanaka does not even suggest positioning the bonds over the active circuit. Further, as mentioned hereinabove, it would be *unobvious* to prevent damage to the active circuit utilizing a mesh in view of the teachings of Tanaka, since, as mentioned hereinabove, Tanaka merely recognizes the problem of bond density, disconnection, etc.

It is again noted that none of the references relied upon by the Examiner even suggest a mesh, as claimed by applicant, to ensure that bonds are capable of being placed over the active circuit without damage thereto during a bonding process. For these reasons, applicant respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, since the prior art references, when combined, fail to teach or suggest all of the claim limitations, as noted above. A notice of allowance or a specific prior art showing of all of applicant's claim limitations, in combination with the remaining claim elements, is respectfully requested.

With respect to the dependent claims, it is noted that the Examiner's rejection is still deficient. Specifically, the Examiner relies on Figures 7A and those shown below from Tanaka to meet applicant's claimed "wherein the interconnect vias include at least two spaced rows for each of the first portions" and "wherein a width of the first portions is enlarged to accommodate the at least two spaced rows for each of the first portions" (see Claims 17-18 et al.).



Specifically, the Examiner argues that "interconnect vias (110a-c and 120a-c) include at least two spaced rows for each of the first portions." Applicant respectfully disagrees, as it appears that the Examiner has simply not taken into consideration the full weight of applicant's claim language. For example, applicant's claimed "first portions" are clearly defined as a plurality of substantially linear first portions which intersect a plurality of substantially linear second portions to define a matrix of openings (note intervening Claims 12-13). Thus, it is clear

-9-

that applicant's claimed "first portions" each correlate with one of the rows annotated above by the arrow.

To this end, in no row of Tanaka is there any "at least two spaced rows" of "interconnect vias" formed thereon and "wherein a width of the first portions is enlarged to accommodate the at least two spaced rows for each of the first portions," as claimed. In fact, as noted in Figure 6A from Tanaka above, the rows thereof are not enlarged to accommodate any two spaced rows (note the crowding and the interconnects positioned in the "second portions," which intersect the first portions, etc.).

Again, only applicant teaches and claims mesh first portions that have enlarged widths so that two spaced rows of vias are better accommodated. Again, applicant respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, since the prior art references, when combined, fail to teach or suggest all of the claim limitations, as noted above. A notice of allowance or a specific prior art showing of all of applicant's claim limitations, in combination with the remaining claim elements, is respectfully requested.

The Examiner has again rejected Claims 2 and 21 under 35 U.S.C. 103(a) as being unpatentable over Tanaka (US Patent Number: 6,100,589), in view of Applicant's Admitted Prior Art of Figures 1-2. Applicant respectfully disagrees with such rejection.

Specifically, in the latest action, the Examiner argues that "Applicant's Admitted Prior Art of Figures 1-2 disclose a plurality of metal layers (M1-M4) positioned under the active circuit." Whether this is true or not, the Examiner has still not considered the full weight of applicant's claims. Note Figure 2 below.

-10-

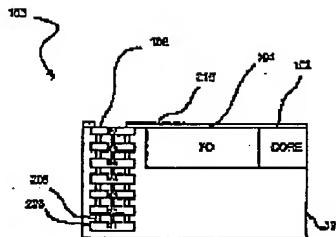


FIG. 2
(Prior Art)

In the present action, the Examiner argues that the foregoing figure discloses an active circuit including an input/output bus, at least partially, under the active circuit. Contrary to the Examiner's assertion, such figure clearly shows an active circuit including an input/output bus, wherein the input/output bus is not, at least partially, under the active circuit. A notice of allowance or a specific prior art showing of all of applicant's claim limitations, in combination with the remaining claim elements, is respectfully requested.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1351 (Order No. NVIDP234/P000825).

Respectfully submitted,

By: _____

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